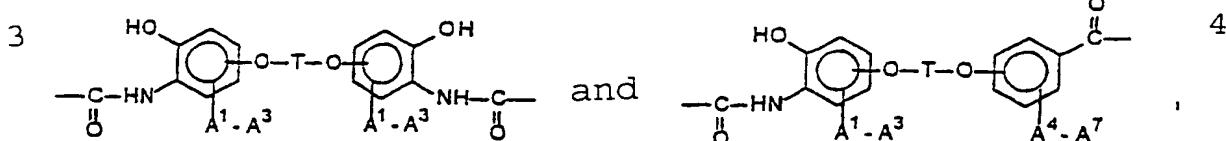


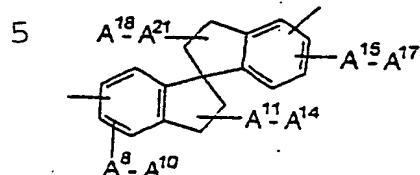
We Claim:

1. A polybenzoxazole precursor comprising a partial structure selected from the group consisting of

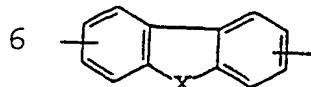


wherein each of A<sup>1</sup> to A<sup>7</sup> is a univalent substituent independently selected from the group consisting of H, F, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub> and OCF<sub>3</sub>;

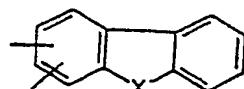
T is a residue selected from the group consisting of



wherein each of A<sup>8</sup> to A<sup>21</sup> is a univalent substituent independently selected from the group consisting of H, F, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub> and OCF<sub>3</sub>;

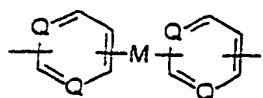


or

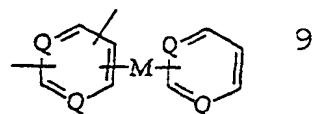


wherein X is selected from the group consisting of -CH<sub>2</sub>-, -CF<sub>2</sub>-, -C(CH<sub>3</sub>)<sub>2</sub>-, -C(CF<sub>3</sub>)<sub>2</sub>-, -C(OCH<sub>3</sub>)<sub>2</sub>-, -C(OCF<sub>3</sub>)<sub>2</sub>-, -C(CH<sub>3</sub>)(C<sub>6</sub>H<sub>5</sub>)-, -C(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>-, -O-, -(NH)-, -(N-CH<sub>3</sub>)- and -(N-C<sub>6</sub>H<sub>5</sub>)-;

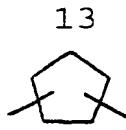
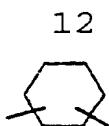
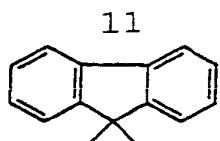
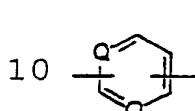
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or



wherein M is selected from the group consisting of residues represented by formulas 10-14

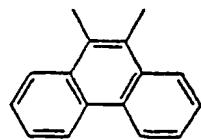


or

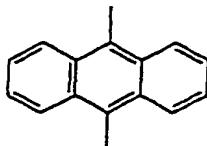
in which Q is selected from the group consisting of C-H, C-F, C-CH<sub>3</sub>, C-CF<sub>3</sub>, C-OCH<sub>3</sub>, C-OCF<sub>3</sub> and N,

and residues represented by formulas 15-34 shown below:

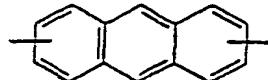
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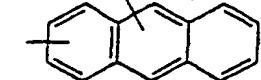
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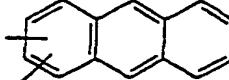
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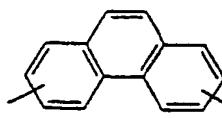
18



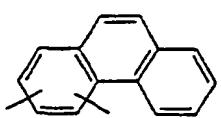
19



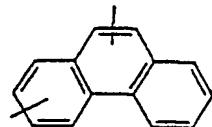
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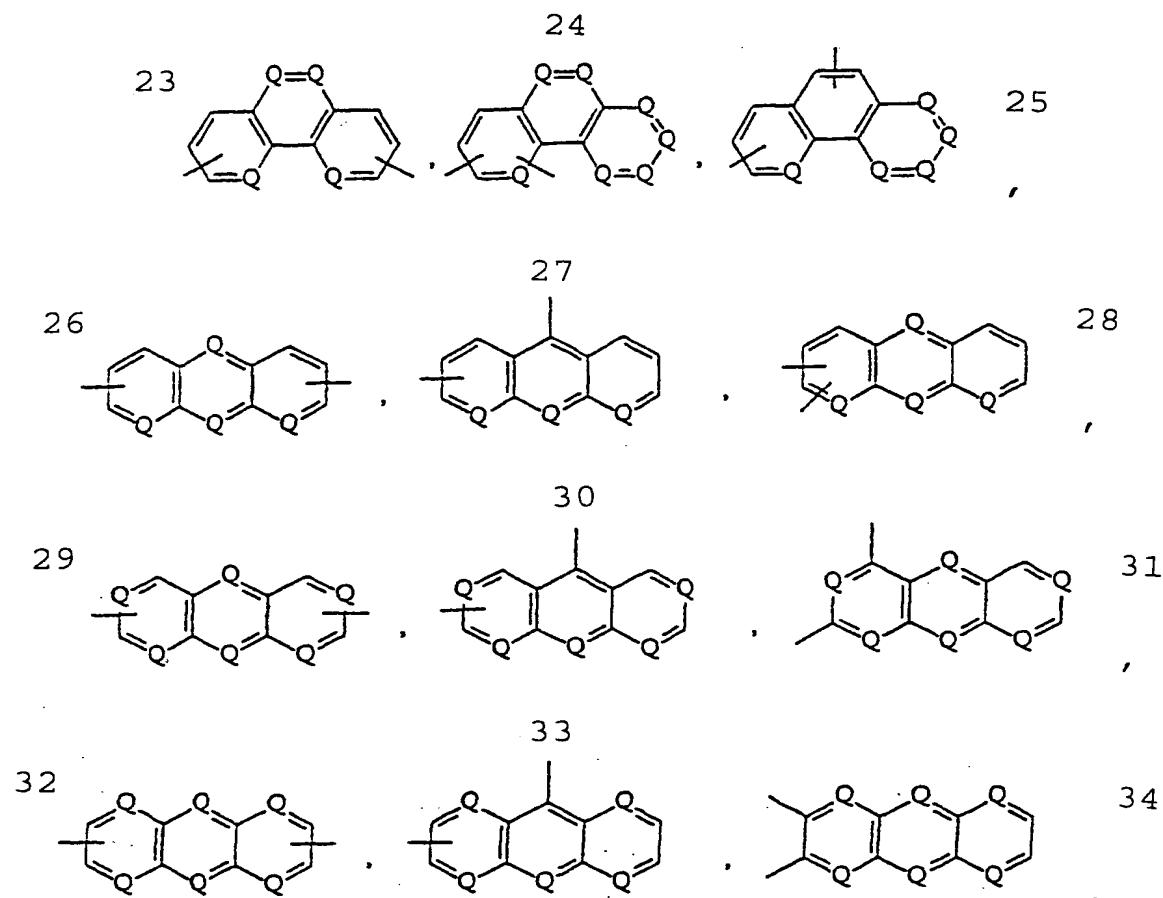


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wherein Q is defined as above, provided that at least one Q signifies N and a maximum of two N atoms are present per ring.

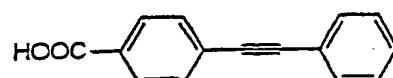
2. The polybenzoxazole precursor of claim 1, further comprising at least one acetylene group.
3. The polybenzoxazole precursor of claim 2, wherein said acetylene group is present in the main chain.
4. The polybenzoxazole precursor of claim 2, wherein said acetylene group is present in a side chain.

5. The polybenzoxazole precursor of claim 2, wherein said acetylene group is present in a chain terminating group.
6. The polybenzoxazole precursor of claim 2, wherein said acetylene group is present in the residue of a carboxylic acid selected from the group consisting of

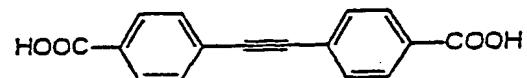
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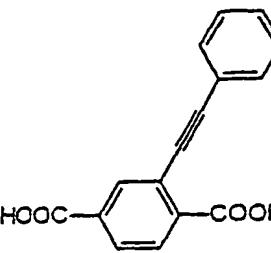


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and

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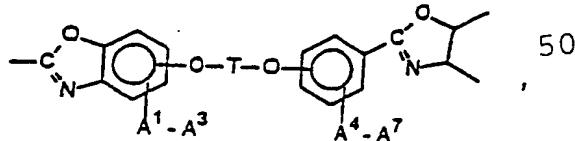
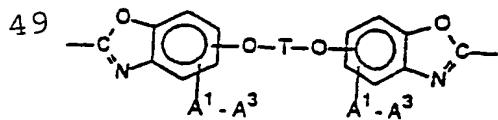


7. A photoresist solution, comprising a polybenzoxazole precursor of claim 1, a diazoketone photoactive component, and an organic solvent.

8. The photoresist solution of claim 7, wherein the weight ratio of polybenzoxazole precursor to diazoketone is in the range from 1:20 to 20:1.

9. The photoresist solution of claim 8, wherein a weight ratio of polybenzoxazole precursor to diazoketone is in a range from 1:10 to 10:1.

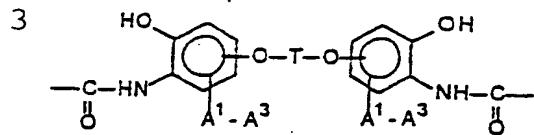
10. A polybenzoxazole containing a partial structure selected from the group consisting of



wherein each of A<sup>1</sup> to A<sup>7</sup> is a univalent substituent independently selected from the group consisting of H, F, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub> and OCF<sub>3</sub>; and

T is a residue selected from the group consisting of the residues represented by formulas 5-34 defined above.

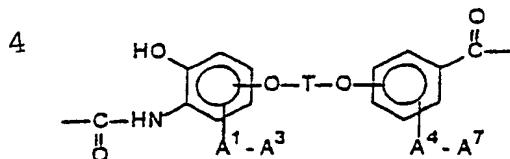
11. The polybenzoxazole precursor of claim 1, wherein said partial structure is



wherein each of A<sup>1</sup> to A<sup>3</sup> is a univalent substituent independently selected from the group consisting of H, F, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub> and OCF<sub>3</sub>; and

T is a residue selected from the group consisting of the residues represented by formulas 5-34 defined above.

12. The polybenzoxazole precursor of claim 1, wherein said partial structure is

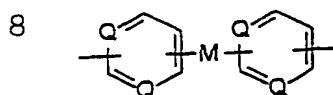


wherein each of A<sup>1</sup> to A<sup>7</sup> is a univalent substituent independently selected from the group consisting of H, F, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub> and OCF<sub>3</sub>; and

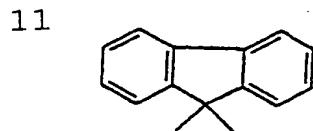
T is a residue selected from the group consisting of the residues represented by formulas 5-34 defined above.

13. The polybenzoxazole precursor of claim 1, wherein each of A<sup>1</sup> to A<sup>7</sup> is H.

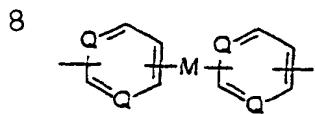
14. The polybenzoxazole precursor of claim 1, wherein T is



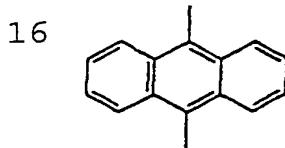
in which each Q is CH and M is



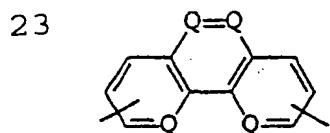
15. The polybenzoxazole precursor of claim 1, wherein T is



in which each Q is CH and M is

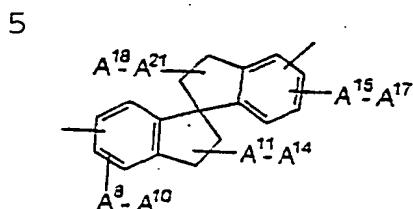


16. The polybenzoxazole precursor of claim 1, wherein T is



in which Q in each outside ring is N and each Q in the middle ring is CH.

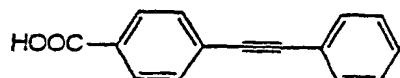
17. The polybenzoxazole precursor of claim 1, wherein T is



in which six of the substituents A<sup>8</sup> to A<sup>21</sup> are CH<sub>3</sub> and the remainder of the substituents A<sup>8</sup> to A<sup>21</sup> are H.

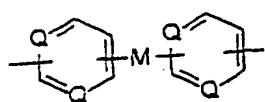
18. The polybenzoxazole precursor of claim 5, wherein said chain terminating group is a residue of

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19. The polybenzoxazole precursor of claim 18, wherein T is

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in which each Q is CH and M is

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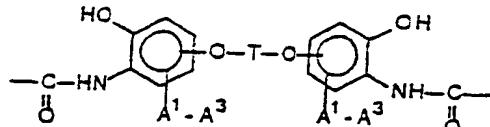


20. A process for preparing a polybenzoxazole precursor

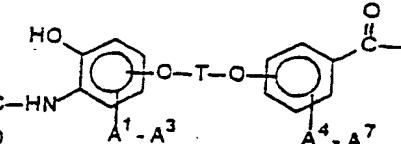
containing a partial structure selected from the group

consisting of

3



and



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wherein each of A<sup>1</sup> to A<sup>7</sup> and T are as defined above, comprising the steps of

providing at least one reactant selected from the group consisting of bis-o-aminophenols and o-aminophenolcarboxylic acids,

causing the reactant to react with at least one dicarboxylic acid compound,

mixing the reaction mixture with a precipitating agent to precipitate a solid polybenzoxazole precursor,

and isolating the polybenzoxazole precursor from the reaction mixture.

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